

The following Listing of the Claims will replace all prior versions and all prior listings of the claims in the present application:

Listing of The Claims:

1-37. (Cancelled)

38. (Currently Amended) A method to monitor the activity of an enzyme comprising the step of monitoring the addition of a moiety selected from the group consisting of: phosphate, ubiquitin, glycosyl, and ADP-ribosyl to a reporter molecule ~~as claimed in claim 5~~ comprising an isolated polypeptide which associates with a binding partner in a coiled-coil dependent manner, wherein said polypeptide comprises a non-natural site sufficient for the addition of a moiety selected from the group consisting of: phosphate (PO₄), ubiquitin, glycosyl, and ADP-ribosyl, and wherein said polypeptide binds to said binding partner in a manner that is dependent upon the addition of said moiety, and wherein said polypeptide further comprises detection means.

39. (Cancelled)

40. (Currently Amended) The method of claim 38 ~~or 39~~, wherein said method further comprises, prior to said step of monitoring, the step of mixing the reporter molecule and its binding partner under conditions which permit binding of said reporter molecule and said binding partner.

41. (Currently Amended) The method according to claim 40 ~~38 or 39~~, wherein said mixing step includes mixing an enzyme that adds to one or both of a said reporter molecule and its binding partner ~~or removes from one or both of a said reporter molecule and its binding partner~~ a said moiety and measuring the change in energy transfer between said reporter molecule and its binding partner.

42. (Original) The method according to claim 41, wherein said measuring is performed by fluorescent resonance energy transfer (FRET).

43. (Currently Amended) The method of claim 42, wherein said ~~fluorescence emitting detection~~ means comprise two different fluorophores.

44. (Original) The method of claim 43, wherein said fluorophores comprise fluorescein and tetramethylrhodamine.

45. (Currently Amended) The method of claim 40 ~~38~~, wherein said polypeptide comprises a cysteine amino acid through which said ~~fluorescence-emitting~~ detection means is attached via a covalent bond.

46. (Currently Amended) The method of claim 42, wherein said ~~light-emitting~~ detection means comprises two different fluorescent proteins.

47. (Original) The method of claim 46, wherein said two different fluorescent proteins comprise green fluorescent protein and red fluorescent protein.

48. (Original) The method of claim 46, wherein said two different fluorescent proteins comprise green fluorescent protein and blue fluorescent protein.

49. (Currently Amended) The method according to claim 40 ~~3~~, or 46, wherein said method further comprises exciting said reporter molecules and monitoring fluorescence emission.

50. (Currently Amended) The method according to claim 41 ~~38~~, wherein said enzyme is selected from the group consisting of a kinase, a phosphatase, a UDP-N-Acetylglucosamine-Dolichyl-phosphate-N-acetylglucosamine phosphotransferase, an O-GlcNAc transferase, a ubiquitin activating enzyme E1, a ubiquitin conjugating enzyme E2, a ubiquitin protein ligase E3, a poly (ADP-ribose) polymerase and an NAD:Arginine ADP ribosyltransferase.

51. (Original) The method according to claim 41, wherein said mixing step comprises mixing an agent which modulates the activity of said enzyme.

52. (Original) The method according to claim 41, wherein said mixing step comprises mixing an agent which modulates fluorescence emission of said reporter molecule.

53-90. (Cancelled)

91. (Currently Amended) The method according to ~~any of claims~~ claim 38; ~~39, 67, 78 and 89~~, wherein said method comprises real-time observation of association of a said isolated polypeptide and its binding partner or of a said isolated pair of polypeptides.